

interior of the axle and then to **[the] a hub cap** to inflate the tire, the improvement comprising:

a first rotary union member mounted on the end of the axle and having a first elongate opening therethrough and with a first seal ring carried thereabout;

B a ^{second} ~~secondary~~ rotary union member mounted on **[said]** the hub cap and having a second elongate opening therethrough in general alignment with the first opening and a second seal ring carried thereabout; and

a flexible tube having

Acnt a first end extending into said first opening and sealably through said first seal ring; **and**

a second end extending into said second opening and sealably through said second seal ring, whereby said tube may flex at each end adjacent said openings in the first and second members;

Ins at least one of the seal rings being dynamic, and

each of said elongate openings closely receiving a **substantial**

[substantially] length of an end of said tube so that **[said tube] flexing of the tube** compensates for misalignment while minimizing risk of distortion of said seal rings which might enable them to leak.

Cancel claim 2.

Claim 3, line 1, change "2" to --1--.

Claim 4, line 1, change "2" to --1--.

?
to accommodate rotation of the hubcap in relation to the axle

Add the following claims 9-24:

9. 8 In a tire inflation system for a vehicle having at least one axle with at least one pneumatic tire mounted for rotation about the end of the axle and a source of pressurized air carried by said vehicle for supplying air to the interior of said axle and then to a hub cap to inflate said tire, the improvement comprising:

a first rotary union member mounted on said axle's end having a first opening therethrough with a first seal ring carried thereabout generally in alignment with said axle's axis,

a second rotary union member mounted on the hub cap and having a second opening therethrough with a second seal ring carried thereabout in general alignment with said first opening, and

a flexible tube having

a first end extending into said first opening to sealably engage said first seal ring, and

a second end extending into said second opening to sealably engage said second seal ring,

at least one of the seal rings surrounding one end of the tube serves as a dynamic seal ^{to accomodate} during rotation of said hub cap in relation to said axle, and

the opening adjacent to the one dynamic seal ring closely receives a sufficient length of said one end of the tube so that misalignment between said first and second members during rotation is compensated for by flexure in said flexible tube to minimize distortion of said dynamic seal.

17

A

10. 9 As in claim 8, wherein

the end of said one opening has a bell-mouth to receive said one-end of the flexible tube during installation.

11. 10 As in claim 9, wherein

the other seal ring is static.

12. 11 As in claim 9, wherein

the other seal ring surrounds the second end of the tube to serve as a second dynamic seal during rotation of the hub cap in relation to the axle, and the opening adjacent to the other seal closely receives a sufficient length of the other end of the tube so that misalignment between said first and second members is compensated for by flexure in said tube to minimize distortion of said second dynamic seal.

13. 12 As in claim 9, wherein

a rigid sleeve surrounds a portion of the flexible tube so that said flexible tube cannot buckle if the distance between said first and second members is large.

14. 13 As in claim 9, further including:

a bearing lubricant chamber within said hub cap,

a third seal ring carried about said second opening to sealably engage about said tube inwardly of said second seal opening, and

a vent in said second member located between said second and said third seal rings connection said member's elongate opening to the exterior of said hub cap.

15. 14 As in claim 9, wherein

said tube is a fluorocarbon polymer.

16. In a tire inflation system for a vehicle having at least one axle with at least one pneumatic tire mounted on the end of the axle for rotation about the axle end and a source of pressurized air carried by the vehicle for supplying air to the interior of the axle and then to a hub cap to inflate the tire, the improvement comprising:

(a first rotary union member mounted on the end of the axle and having a first opening therethrough and with a first seal ring carried thereabout;

a second rotary union member mounted on the hub cap and having a second opening therethrough in general alignment with the first opening and with a second seal ring carried thereabout, and

a flexible tube having a first end sealably engaging said first seal ring and a second end sealably engaging said second seal ring,

at least one of the seal rings surrounding one end of the tube serves as a dynamic seal during rotation of said hub cap in relation to said axle; and

the opening adjacent to the one dynamic seal ring closely receives a sufficient length of said one end of the tube so that misalignment between said first and second members during rotation is compensated for by flexure in said flexible tube to minimize distortion of said dynamic seal.

As in claim 16, further including:

a bearing lubricant chamber within said hub cap,

a third seal ring carried about said second opening to sealably engage about said tube inwardly of said second seal opening, and

a vent in said second member located between said second and said third seal rings connection said member's elongate opening to the exterior of said hub cap.

16. As in claim 15, wherein

said tube is a fluorocarbon polymer.

19. In a tire inflation system for a vehicle having at least one axle with at least one pneumatic tire mounted on the end of the axle for rotation about the axle end and a source of pressurized air carried by the vehicle for supplying air to the interior of the axle and then to a hub cap to inflate the tire, the improvement comprising:

a first rotary union member mounted on the end of the axle and having a first elongate opening therethrough and with a first seal ring carried thereabout;

a second rotary union member mounted on the hub cap and having a second elongate opening therethrough in general alignment with the first opening and with a second seal ring carried thereabout, and

a tube having a first end sealably engaging said first seal ring and a second end and sealably engaging said second seal ring,

at least a portion of the tube intermediate the inner ends of the openings being flexible, whereby said tube may flex at each end adjacent said first and second openings; and

at least one of the seal rings serves as a dynamic seal during rotation of said hub cap in relation to said axle, and

the opening adjacent to the one dynamic seal ring closely receives a sufficient length of said one end of the tube so that misalignment between said first and

second members during rotation is compensated for by flexure in said flexible tube to minimize distortion of said dynamic seal.

20. ¹⁸ As in claim 1¹⁷, wherein

said first seal ring is dynamic and said second seal ring is static.

21. ¹⁹ As in claim 1¹⁷, wherein

said second seal ring is dynamic and said first seal ring is static.

22. ²⁰ As in claim 1¹⁷, wherein

said first and second seal rings are dynamic.

23. ²¹ As in claim 1¹⁷, further including:

a bearing lubricant chamber within said hub cap,

a third seal ring carried about said second opening to sealably engage about said tube inwardly of said second seal opening, and

a vent in said second member located between said second and said third seal rings connection said member's elongate opening to the exterior of said hub cap.

24. ²² As in claim 1¹⁷, wherein

said tube is a fluorocarbon polymer.

REMARKS

The amendments of Claim 1 and others dependent on it are made in the interest of clarity, and new Claim 9 to 24 are directed to systems which, like Claims 1 to 7, are believed to patentably distinguish the prior art.

Favorable consideration is requested.

21

A